

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A low noise down converter for satellite broadcast receiving, comprising a mixer converting a received high-frequency signal into an intermediate-frequency signal,

said mixer including:

a transistor performing frequency conversion,

a PNP bipolar transistor having an emitter connected to a drain of said transistor and a collector connected to a gate of said transistor, and

a temperature characteristic compensating circuit connected to a base of said PNP bipolar transistor and canceling a temperature characteristic of said PNP bipolar transistor to keep a collector current of said PNP bipolar transistor constant;

wherein said temperature characteristic compensating circuit includes an NPN bipolar transistor having a conductive terminal connected to the base of said PNP bipolar transistor, and

said PNP and NPN bipolar transistors are packaged into a dual transistor.

2.-3. (canceled)

4. (currently amended) A mixer comprising:
- a transistor performing frequency conversion of a received signal;
- a PNP bipolar transistor having an emitter connected to a drain of said transistor and a collector connected to a gate of said transistor; and
- a temperature characteristic compensating circuit for canceling a temperature characteristic of the PNP bipolar transistor to keep a collector current of said PNP bipolar transistor constant, the temperature characteristic compensating circuit including an NPN bipolar transistor having a conductive terminal connected to a base of said PNP bipolar transistor;
- said PNP and NPN bipolar transistors being packaged into a dual transistor.
5. (new) The low noise down converter according to claim 1, wherein said temperature characteristic compensating circuit is configured to lessen a variation of said collector current of said PNP bipolar transistor in accordance with said temperature characteristic by adjusting a DC voltage applied to said base of said PNP bipolar transistor according to said ambient temperature.
6. (new) The mixer according to claim 4, wherein said temperature characteristic compensating circuit is configured to maintain said collector current of said PNP bipolar transistor irrespective of an

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ambient temperature by adjusting a DC voltage applied to said base of said PNP

bipolar transistor according to said ambient temperature.